

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

**In the Matter of**

**SPECTRUM BRIDGE, INC. AND  
MELD TECHNOLOGIES, INC.  
REQUEST FOR WAIVER OF SECTIONS  
15.711(b)(2) AND 15.711(b)(3)(ii)  
OF THE FCC RULES**

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**ET Docket No. 13-81**

**COMMENTS OF**

**VimiONix LLC**

April 25, 2013

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**COMMENTS OF  
VIMIONIX LLC**

**I. INTRODUCTION**

VimiONix LLC (“VimiONix”) respectfully submits these Comments in response to the Spectrum Bridge, Inc. (“Spectrum Bridge”) request (“Waiver”) filed February 25, 2013 on behalf of Meld Technologies, Inc. (“MeldTech”), asking that the Commission waive the restriction on adjacent channel operation for a fixed TV bands device (TVBD) manufactured by MeldTech and certified under FCC ID: OKVMT300.

In summary, we believe that the Waiver should be allowed, as it should not cause harm to spectrum incumbents, and at the same time should provide opportunities for new and innovative uses of the spectrum. We also believe that a new class of low-power fixed mode devices should be defined as part of the Rules for TVBDs.

## **II. STATEMENT OF INTEREST IN THIS PROCEEDING**

VimiONix is a company developing new mobile services using the broadcast spectrum. VimiONix LLC, established in 2011, has offices in New Jersey and New York, and was founded by two digital television experts having over 60 years of combined experience developing broadcast and consumer electronics technologies, as well as having decades of direct involvement in active spectrum management.

VimiONix is busily engaged in carrying out plans for the rollout of mobile services using technologies that include the ATSC A/153 standard. The company has a license to several patents and patents pending related to mobile services, and is closely evaluating the use of both licensed and unlicensed technologies, including TV Band Devices (“TVBDs”), as they pertain to its business interests.

## **III. FIXED MODE DEVICES OPERATING UNDER THE WAIVER MUST MEET OR EXCEED THE SPECTRUM PROTECTION REQUIREMENTS OF PERSONAL/PORTABLE DEVICES**

Use of fixed mode TVBDs in a manner that emulates personal/portable TVBDs, i.e., as requested in the Waiver, must not circumvent the requirements laid out in the Commission’s Rules, as far as generating interference to legacy devices. The MeldTech Waiver proposes the operation of fixed mode devices at a [maximum] power level of 40 milliwatts, and that the devices operate only on channels 21 and above, including adjacent channels.

Fixed mode devices operating under the Waiver would therefore operate, for all intents and purposes, as if they were 40-milliwatt personal/portable devices operating under the Commission’s Rules for such devices, with the constraint that each device will

not operate under the direct control of another fixed mode device. As such, any potential interference from such a device should have the same characteristics as that of 40-milliwatt personal/portable devices, and should therefore not cause undue harm to incumbent spectrum users.

#### **IV. FIXED MODE DEVICES OPERATING UNDER THE WAIVER SHOULD PROVIDE A MECHANISM TO CONFIRM ACCURATE GEOLOCATION REPORTING**

In its filing, MeldTech makes the case that the inclusion of GPS capability in devices operating under the Waiver “would ... not be a practical or reliable way to determine the device’s location,” because the primary use of their product is expected to be indoors, where GPS operation cannot be assured. The Waiver goes on to say that devices operating under the Waiver will establish the availability of available channels by providing a means for professional installers to program the geographic location of the device at the time that the device is being installed. In addition, the Waiver suggests that MeldTech is developing “other more reliable geolocation solutions for the environments the device is intended to operate in.”

We are concerned that allowing devices to allocate spectrum based on a manual input of data could result in unexpected interference due to operator error, if there is no other mechanism that will verify the device’s geolocation. However, as a fixed mode device must communicate with, and be verified by, the national TV bands database, we believe that there are mechanisms available, through the Internet and by other means, that can confirm the correct geolocation of the device. We therefore recommend that such a mechanism should be defined and made a part of the Commission’s Rules.

**V. THE COMMISSION SHOULD INITIATE A PROCEEDING TO PERMIT USE OF A NEW CLASS OF LOW-POWER FIXED MODE DEVICES.**

The Waiver proposes the use of fixed mode devices on adjacent channels, with a maximum power output of 40 milliwatts. As noted earlier, such devices would operate, for all intents and purposes, as if they were 40 milliwatt personal/portable devices operating under Part 15 of the Commission's Rules, and thus, should not cause interference to incumbent spectrum users, much the same as would an authorized personal/portable device, provided that accurate geolocation is used.

We believe it would be beneficial to the public to define a new class of low-power one-way fixed-mode devices, with an allocation that parallels that of the Mode II personal/portable devices. These devices would operate under the following restrictions:

1. low-power fixed-mode devices operating on first (or greater) adjacent channels 21-36 and 38-51 with a maximum EIRP of 40 milliwatts, and
2. low-power fixed-mode devices operating on second adjacent (or greater) channels 21-36 and 38-51 with a maximum EIRP of 100 milliwatts.

We propose that devices in this new class be allowed to select a channel themselves and be allowed to initiate and operate as part of a one-way network of TVBDs, transmitting to other TVBDs as well as to other non-TVBD devices. In addition, devices in this new class should use an internal geo-location capability and have access to a TV bands database, either through a direct connection to the Internet or through an indirect connection to the Internet by way of a fixed TVBD, and be required to use access a TV bands database at least once a day to verify that the operating channels continue to remain available.

## **VI. CONCLUSION**

We believe that the spirit of the Waiver is to allow a “field trial” of a specific type of TV band device, in order to understand the full impact of its use. Of course, should unexpected interference problems emerge, we expect MeldTech to cooperate fully with the Commission to resolve such issues. In any event, it would be enormously useful to the business and technical community to have non-proprietary information regarding the experience gained by MeldTech during the one-year requested period of the Waiver released to the Commission, and be made public.

VimiONix commends the Commission for its efforts to allow unlicensed radio transmitters to operate in the broadcast television spectrum at locations where that spectrum is not being used by licensed services. For its part, VimiONix intends to continue its work to develop and protect new uses of wireless spectrum.

Respectfully submitted,

/s/

Aldo G. Cugnini

Managing Partner and Founding Partner

/s/

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April 25, 2013